

DISCRIMINATION OF PEPTIDES USING A MOLECULARLY IMPRINTED BIOSENSOR

ABSTRACT

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Based on the direct formation of molecularly imprinted polymer on gold electrode, the present invention provides a peptide sensor for the detection of low-molecular-weight peptides. A new cross-linking monomer, (*N*-Acr-L-Cys-NHBn)₂ is employed to attach the surface of
10 the chip and to copolymerize with other monomers. Interestingly, *N*-benzylacrylamide participating both polymerization and recognition is carried out in an aqueous environment. Using quartz crystal microbalance detection, short peptides can be monitored by their interaction with plastic antibodies specific for the target peptides. The
15 selectivity of molecularly imprinted polymer and the sensitivity of such artificial biosensors have collaborated to differentiate traces of oxytocin and vasopressin to the ng/ml scale.